

MARATONA ACADÉMICA POR MOÇAMBIQUE

Conferência Multidisciplinar de Solidariedade

MOBILIZAÇÃO PRECOCE DA PESSOA EM SITUAÇÃO CRÍTICA

PESSOA EM SITUAÇÃO CRÍTICA

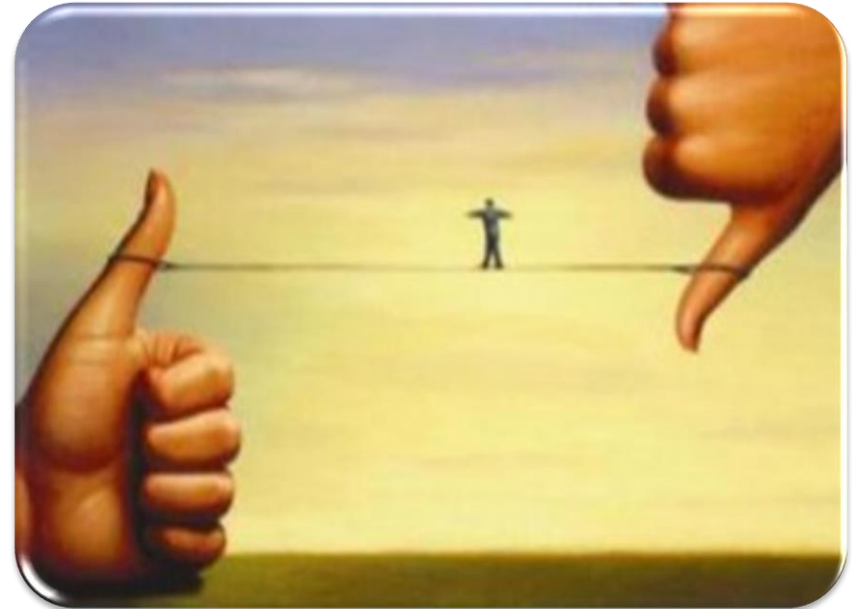


IMOBILIDADE E A DOENÇA CRÍTICA

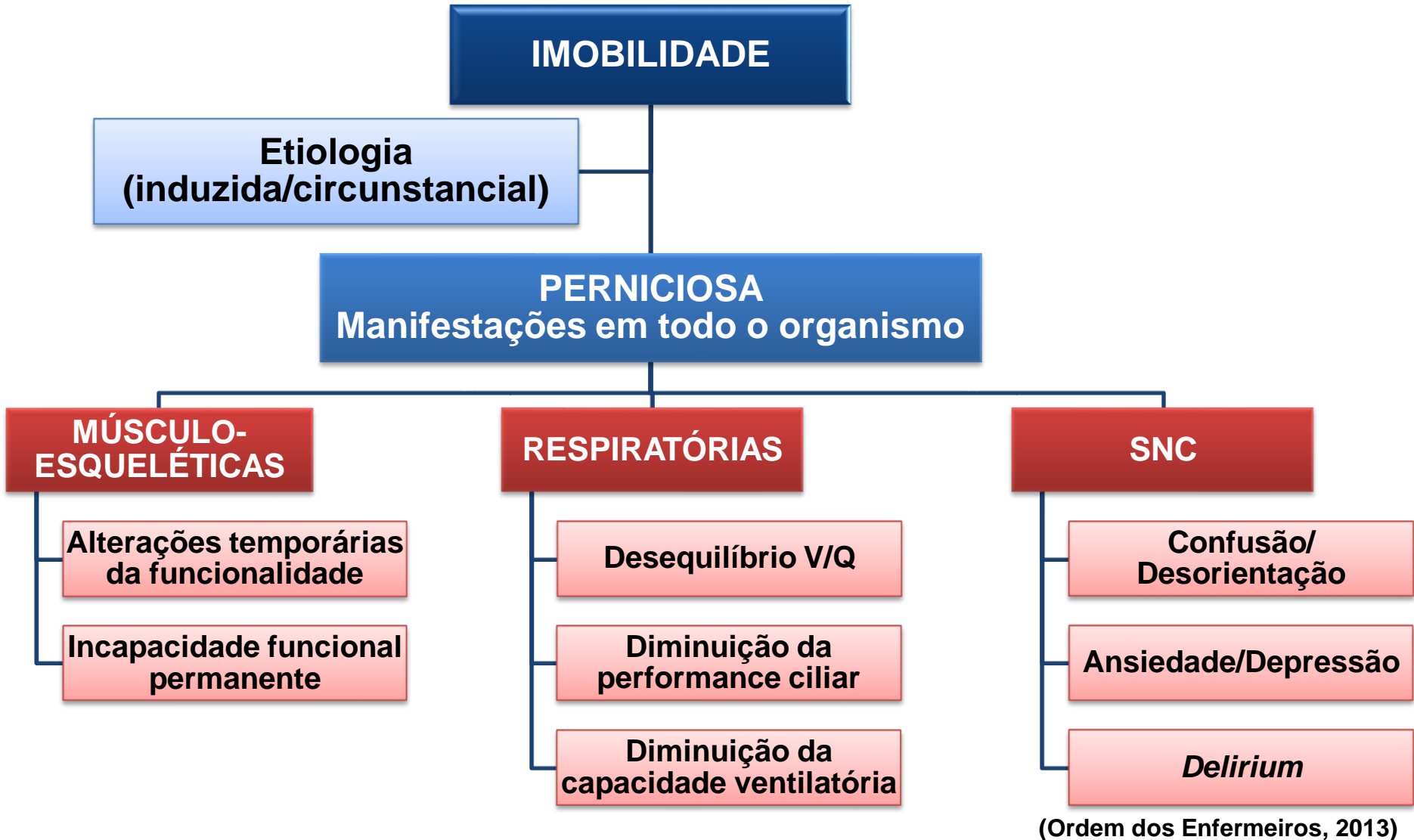
DOENTE CRÍTICO

**Vulnerabilidade/
Instabilidade/
Complexidade
Cuidados/Vigilância
Intensiva**

**Repouso no Leito/
Imobilidade**



IMOBILIDADE E A DOENÇA CRÍTICA



“Cultura” de Repouso no Leito

- Minimizar as exigências metabólicas;
- Foco do tratamento: o descanso para promoção da recuperação.

(Parry & Puthuchear, 2015) •

Actualidade

- Apesar dos efeitos negativos do REPOUSO NO LEITO/IMOBILIDADE estarem bem documentados, esta modalidade de tratamento continua a ser amplamente utilizada, nomeadamente no cuidado à pessoa em situação crítica.

(Dammeyer, Dickinson, Packard, & Ricklemann, 2013; •
Hashem, Nelliot, & Needham, 2016; •
Schmidt, U., Knecht, I. & MacIntyre, 2016; •
Schober & Thornton, 2013) •

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

Physiotherapy Theory and Practice, 20: 175–185, 2004
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DOI: 10.1080/09593980490487474

The safety of mobilisation and its effect on haemodynamic and respiratory status of intensive care patients

Kathy Stiller, Anna C. Phillips, and Paul Lambert

**1.º ESTUDO
(Segurança)**

Although mobilisation resulted in significant increases in heart rate and blood pressure and a non-significant fall in percutaneous oxygen saturation, the ICU patients in this study deemed suitable for mobilisation were able to be safely mobilised.

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

Early intensive care unit mobility therapy in the patient with acute respiratory failure*

Peter E. Morris, MD; Amanda Goad, RN; Clifton Thompson, RN; Karen Taylor, PhD; Leah Passmore, MS; Amelia Ross, RN, MSN; Laura Anderson; Shirley Baker; Mary Sanchez; and Small, MBA;

1.º ESTUDO (Efetividade)

Conclusions: A Mobility Team using a mobility protocol initiated earlier physical therapy that was feasible, safe, did not increase costs, and was associated with decreased intensive care unit and hospital length of stay in survivors who received physical therapy during intensive care unit treatment compared with patients who received usual care.

Patients: Medical intensive care unit patients with acute respiratory failure requiring mechanical ventilation on admission: Protocol, n = 165; Usual Care, n = 165.

Interventions: An intensive care unit Mobility Team (critical care nurse, nursing assistant, physical therapist) initiated the protocol within 48 hrs of mechanical ventilation.

Measurements and Main Results: The primary outcome was the proportion of patients receiving physical therapy in patients surviving to hospital discharge. Baseline characteristics were similar between groups. Outcome data are reflective of survivors. More Protocol patients received at least one physical therapy session than did Usual Care (80% vs. 47%, $p \leq .001$). Protocol

patients were discharged to the ward earlier (5 vs. 11 days, $p \leq .001$), had fewer days in the intensive care unit (91% vs. 99%), and had similar low complication rates compared with Usual Care. For Protocol patients, intensive care unit length of stay was 5 vs. 6.9 days for Usual Care ($p = .025$); hospital length of stay was 11.2 vs. 14.5 days ($p = .001$). (intensive care unit/hospital length of stay, Acute Physiology and Chronic Health Evaluation II, vasopressor). There were no untoward events during an intensive care unit Mobility session and no cost difference (survivors + nonsurvivors) between the two arms, including Mobility Team costs.

Conclusions: A Mobility Team using a mobility protocol initiated earlier physical therapy that was feasible, safe, did not increase costs, and was associated with decreased intensive care unit and hospital length of stay in survivors who received physical therapy during intensive care unit treatment compared with patients who received usual care. (Crit Care Med 2008; 36:2238–2243)

KEY WORDS: respiratory failure; mechanical ventilation; mobility; intensive care units; physical therapy; passive range of motion

(Morris, Goad, Thompson, Taylor, Harry, Passmore, ...Haponik, 2008)



CHEST

Transparency in Health Care

Reducing Iatrogenic Risks

ICU-Acquired Delirium and Weakness—Crossing the Quality Chasm

Eduard E. Vasilevskis, MD; E. Wesley Ely, MPH, MD, FCCP; Theodore Speroff, PhD; Brenda T. Pun, RN, MSN, ACNP; Leanne Boehm, RN, MSN, ACNS-BC; and Robert S. Dittus, MPH, MD

ICUs are experiencing an epidemic of patients with acute brain dysfunction (delirium) and weakness, both associated with increased mortality and long-term disability. These conditions are commonly acquired in the ICU and are often initiated or exacerbated by sedation and ventilation decisions and management. Despite > 10 years of evidence revealing the hazards of delirium, the quality chasm between current and ideal processes of care continues to exist. Monitoring of delirium and sedation levels remains inconsistent. In addition, sedation, ventilation, and physical therapy practices proven successful at reducing the frequency and severity of adverse outcomes are not routinely practiced. In this article, we advocate for the adoption and implementation of a standard delirium monitoring and early mobility bundle of practices that will build a bridge across the current quality chasm from the "front end" to the "back end" of critical care and toward improved cognitive and functional outcomes for ICU survivors.

“ABCDE bundle,”

CHEST 2010; 138(5):1224–1233

Abbreviations: ABCDE = awakening and breathing coordination, delirium monitoring, and exercise/early mobility; CAM-ICU = confusion assessment method for the ICU; LOS = length of stay; SAT = spontaneous awakening trial; SBT = spontaneous breathing trial

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

ABCDE Bundle in Critical Care (2010)

A – Assess, Prevent and Manage Pain

B – Both Spontaneous Awakening Trials and Spontaneous Breathing Trials

C – Choice of Analgesia and Sedation

D – Delirium – Assess, Prevent and Manage

E – Exercise/Early Mobility

“A mobilização precoce reduz a disfunção cognitiva e física. Múltiplos estudos demonstraram a exequibilidade da mobilização precoce em doentes com falência respiratória.

A mobilização precoce contribui, isoladamente, para uma diminuição do tempo de internamento em 3 dias, redução da incidência de *delirium*, melhora a recuperação da independência funcional”.

(Vasilevsky, Ely, Speroff, Pun, Boehm & Dittus, 2010)

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

Review Article

Rehabilitation and early mobilization in the critical patient: systematic review

PATRICIA ARIAS-FERNÁNDEZ, RN¹⁾, MACARENA ROMERO-MARTIN, RN, MHS²⁾, JUAN GÓMEZ-SALGADO, PhD^{3, 4)*}, DANIEL FERNÁNDEZ-GARCÍA, PhD⁵⁾

¹⁾ Health Sciences School, Department of Nursing and Physiotherapy, Intensive Care Unit, University Hospital of León, Spain

²⁾ Red Cross Nursing School, University of Sevilla, Spain

³⁾ Nursing School, University of Huelva: 21071 Huelva, Spain

⁴⁾ University Espiritu Santo, Ecuador

⁵⁾ Health Sciences School, Department of Nursing and Physiotherapy, University of León, Spain

Abstract. [Purpose] To review the literature that examines rehabilitation and early mobilization and that involves different practices (effects of interventions) for the critically ill patient. [Materials and Methods] A PRISMA-Systematic review has been conducted based on different data sources: Biblioteca Virtual en Salud, CINAHL, Pubmed, Scopus, and Web of Science were used to identify randomized controlled trials, crossover trials, and case-control studies. [Results] Eleven studies were included. Early rehabilitation had no significant effect on the length of stay and number of cases of Intensive Care Unit Acquired Weaknesses. However, early rehabilitation had a significant

al intensive



is, Markus Heim, Timothy Houle,
hos, Karen Waak, J Matthias Walz,

care unit (SICU). Attempts to
ther early mobilisation leads to
f patients at hospital discharge.

Lancet 2016; 388: 1377-88

See Editorial page 1349

See Comment page 1351

*Members of the International
Early SOMS-guided Mobilization
Research Initiative listed at the
end of the Article

Klinik für Anaesthesiologie,
Klinikum rechts der Isar der
Technischen Universität
München, Munich, Germany
(S) Schaller MD,

Prof M Blobner MD,
M Heim MD; Department of
Intensive Care, Sir Charles
Gairdner Hospital, Nedlands,
WA, Australia (M Anstey MPH);
Department of Anesthesiology
and Critical Care, Klinikum
Landkreis Erding, Erding,
Germany (T Edrich MD);
Universitätsklinik für
Anästhesiologie, perioperative
Medizin und allgemeine
Intensivmedizin,
Universitätsklinikum Salzburg,
Paracelsus Medical University,
Salzburg, Austria (T Edrich,

o receive standard treatment
: intervention improved the
| in control group, $p < 0.0001$),
days [6-15] in control group,
4-8] in intervention group vs
tion group (25 cases [2.8%])
d. Before hospital discharge
onths after hospital discharge

ity of walking more distance at discharge. Early rehabilitation is associated with an increase in functional capacity and muscle strength, an improvement in walking distance and better perception of the health-related quality of life.

Cycloergometer and electrical stimulation can be used to maintain muscle strength. Further research is needed to establish stronger evidences.

Key words: Critical care, Early mobilization, Rehabilitation

(This article was submitted Apr. 3, 2018, and was accepted Jun. 29, 2018)

The ABCDEF Bundle in Critical Care



Annachiara Marra, MD, PhD^a, E. Wesley Ely, MD, MPH^b,
Pratik P. Pandharipande, MD, MSCI, FCCM^c, Mayur B. Patel, MD, MPH^{d,*}

KEYWORDS

- Pain • Spontaneous awakening trials • Spontaneous breathing trials • Sedation
- Analgesia • Delirium • Early mobility • Intensive care unit

KEY POINTS

- The ABCDEF bundle is an evidence-based guide for clinicians to coordinate multidisciplinary patient care in the intensive care unit (ICU).
- Assessment of pain is the first step before administering pain relief. The Behavioral Pain Scale (BPS) and the Critical-Care Pain Observation Tool (CPOT) are the most valid and reliable behavioral pain scales for ICU patients unable to communicate.

Continued

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

ABCDEF Bundle in Critical Care (2017)

A – Assess, Prevent and Manage Pain

B – Both Spontaneous Awakening Trials and Spontaneous Breathing Trials

C – Choice of Analgesia and Sedation


D – Delirium – Assess, Prevent and Manage

E – Early Mobility

Ainda que existam alguns intensivistas com alguns receios acerca da mobilização precoce, existem boas evidências da conjugação da estratégia de minimizar a sedação e promover a actividade física do doente crítico. A mobilização precoce tem-se revelado fazível e segura, incluindo em subgrupos de elevada complexidade (TSR, ECMO), com uma incidência de complicações muito reduzida (<1%). Alguns estudos advogam benefícios como: melhoria da independência funcional, diminuição da duração de *delirium*, maior taxa de sobrevivência, mais dias sem necessidade de ventilação assistida.

F – Family Engagement


MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO



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ABOUT

PADIS GUIDELINE

ABCDEF BUNDLE

SCCM > ICU Liberation > ABCDEF Bundle

About

PADIS Guidelines

ABCDEF Bundle

- Assess, Prevent, and Manage Pain
- Both SATs and SBTs
- Choice of Analgesia and Sedation
- Delirium: Assess, Prevent and Manage
- Early Mobility and Exercise
- Family Engagement and Empowerment


ABCDEF Bundle

The ABCDEF Bundle elements individually and collectively manage and reduce long-term consequences for adult patients.


ZOOM OUT to evaluate the entirety of the patient's clinical picture.

Search the Resource Library


ZOOM IN on each element of the bundle as the multiprofessional team assesses the patient and reassesses these goals throughout the day by using the resources and tools for each ABCDEF Bundle element below.




ASSESS, PREVENT, AND MANAGE PAIN
Understand pain and find tools for its assessment, treatment and prevention.




BOTH SAT AND SBT
Both Spontaneous Awakening Trials and Spontaneous Breathing Trials




CHOICE OF ANALGESIA AND SEDATION
Understand the importance of defining the depth of sedation choosing the right medication.




DELIRIUM: ASSESS, PREVENT AND MANAGE
Understand delirium risk factors and find tools for its assessment, treatment and prevention.



EARLY MOBILITY AND EXERCISE
ICU early mobility involves more than changing the patient's position.



FAMILY ENGAGEMENT AND EMPOWERMENT
Involving the family in patient care can help recovery.



EARLY MOBILITY AND EXERCISE

ICU early mobility involves more than changing the patient's position.

QUESTÕES:

- Início da mobilização precoce?
- Tipo de mobilizações/intervenções?
- Frequência das mobilizações/intervenções?
- Duração da implementação das mobilizações/intervenções?
- Benefícios em subgrupos de doentes críticos?

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

REVISÃO

MOTOR DE BUSCA: EBSCOHost

BASES DE DADOS: CINAHL *Complete* e MEDLINE *Complete*

PERÍODO DE PESQUISA: 2016-2019

PALAVRAS-CHAVE: “*Critical Illness*” OR “*Intensive Care Units*”
OR “*Critical Care*” AND “*Early Ambulation*” OR “*Early Mobilization*”

Medical Subject Headings (MeSH) e Descritores em Ciências da Saúde (DeCS)

CRITÉRIOS DE INCLUSÃO: (1) doentes críticos, admitidos em unidades de cuidados intensivos; (2) doentes com idade igual ou superior a 18 anos; (3) intervenções implementadas baseadas em mobilização/reabilitação precoce.

CRITÉRIOS DE EXCLUSÃO: artigos com metodologia ambígua, repetidos em ambas as bases de dados, sem correlação com o objecto de estudo, ou que apresentaram conflitos de interesse.

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

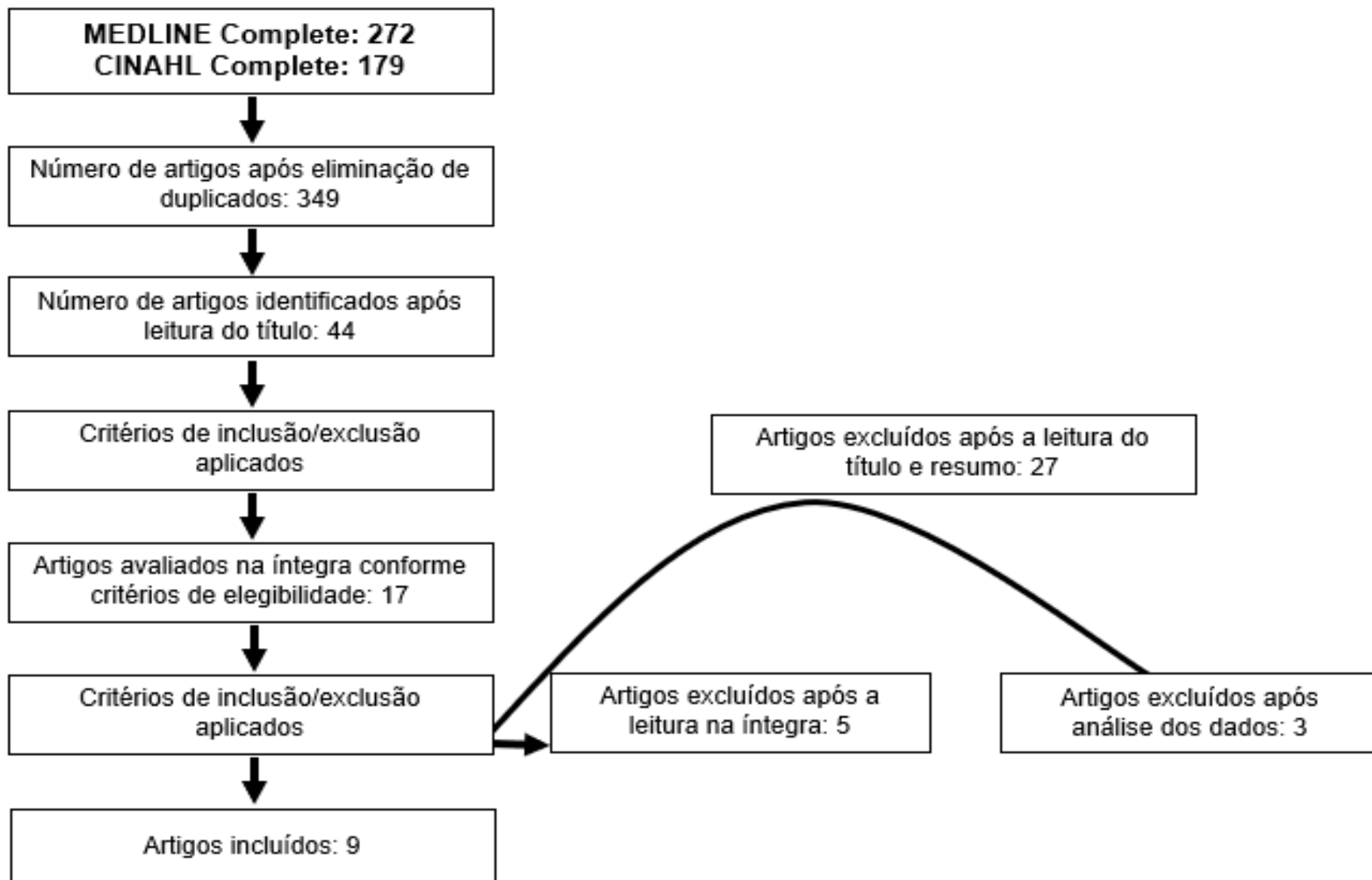


Diagrama PRISMA para a apresentação da metodologia de pesquisa.

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

Título	Nível de Evidência (JBI)	Qualidade Metodológica (CASP)
Systematic review of early exercise in intensive care: A qualitative approach.	1.b – Revisão sistemática de ensaios clínicos randomizados e outros desenhos de estudo.	Nível A
Rehabilitation and early mobilization in the critical patient: systematic review.	1.b – Revisão sistemática de ensaios clínicos randomizados e outros desenhos de estudo.	Nível A
Early mobilisation in mechanically ventilated patients: a systematic integrative review of definitions and activities.	1.b – Revisão sistemática de ensaios clínicos randomizados e outros desenhos de estudo.	Nível A
Safety criteria to start early mobilization in intensive care units. Systematic review.	1.b – Revisão sistemática de ensaios clínicos randomizados e outros desenhos de estudo.	Nível B
Early intervention (mobilization or active exercise) for critically ill adults in the intensive care unit.	1.b – Revisão sistemática de ensaios clínicos randomizados e outros desenhos de estudo.	Nível A

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

Título	Nível de Evidência (JBI)	Qualidade Metodológica (CASP)
A Binational Multicenter Pilot Feasibility Randomized Controlled Trial of Early Goal-Directed Mobilization in the ICU.	1.c – Ensaio controlado randomizado.	Nível A
Earlier and enhanced rehabilitation of mechanically ventilated patients in critical care: A feasibility randomised controlled trial.	1.c – Ensaio controlado randomizado.	Nível A
Early, goal-directed mobilisation in the surgical intensive care unit: a randomised controlled trial.	1.c – Ensaio controlado randomizado.	Nível A
Understanding early goal-directed mobilization in the surgical intensive care unit.	1.c – Ensaio controlado randomizado.	Nível A

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

CONCLUSÕES

Diversidade de intervenções: exercícios de mobilização articular, exercícios de fortalecimento muscular, actividades (sentar, transferir, levantar, permanecer em pé, andar, ...)

Diferenças na definição de mobilização precoce: 24 horas, 48 a 72 horas, durante a ventilação mecânica invasiva.

**A MOBILIZAÇÃO PRECOCE DO DOENTE CRÍTICO É
SEGURA E BENÉFICA.**

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

- Início da mobilização:

- Mais precocemente possível (estabilidade, segurança).

- Tipo de mobilizações/intervenções:

- Dependem da capacidade do doente para participar na implementação das mobilizações/intervenções (Consciência; Agitação-Sedação; Força Muscular; *Status* Funcional).
- Exercícios Terapêuticos de Mobilização Articular:
 - Exercícios de Mobilização Passiva;
 - Exercícios de Mobilização Passiva/Activa-Assistida;
 - Exercícios de Mobilização Activa.
- Exercícios Resistidos;
- Actividades/intervenções (sentar, levantar, transferir, andar)

- Frequência das mobilizações/intervenções:

- Diária, com um aumento gradual das mobilizações/intervenções:
 - 1 Série de 8 Repetições até 3 Séries de 12 Repetições.

- Duração da implementação das mobilizações/intervenções:

- Durante toda a admissão em Cuidados Intensivos.

BARREIRAS À MOBILIZAÇÃO PRECOCE DO DOENTE CRÍTICO

Instabilidade/ Vulnerabilidade

- Hemodinâmica;
- Respiratória;
- *Delirium*.

Tratamentos

- Ventilação Mecânica;
- TSR;
- ECMO;
- Drenagens;
- ...

Recursos Humanos

- Insuficientes;
- Falta de formação/competência.

**CULTURA DE REPOUSO
NO LEITO**

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

COMPLICAÇÕES

“What about the lines?”

Safety and patients’ response to ambulation with a pulmonary artery cateter in the cardiac Intensive care unit (American Journal of Critical Care, 2019).

População: 19 doentes.

Deambulações: 303 (média 7 metros/máximo 68 metros).

Eventos Adversos: 7 (2,4%) – 7 caminhadas com migração de cateter (4,5cm) com estabilização da cateterização.

SEGURANÇA

Mobilização: média 8,3 dias \pm 5,5 dias) (149 sessões incluíram sentar ou andar).

Eventos Adversos: 4 (2,2%) – durante a deambulação: 1 aumento da ICP e 1 deslocação do cateter; após deambulação: 1 aumento da ICP e um episódio de emese.

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

COMPLICAÇÕES

“What about the lines?”

Safety and feasibility of femoral catheters during physical rehabilitation in the intensive care unit (Journal of Critical Care, 2013).

População: 239 doentes com cateter femoral (6% diálise).

Intervenções: Sentar, levantar, andar, exercícios no leito.

Eventos Adversos: 0.

SEGURANÇA

Intervenções: 630 actividades de mobilização (sentar na cama, transferência para cadeira, levantar, andar).

Eventos Adversos: 0.

Perme, Nalty, Winkelman, Nawa & Masud (2013)

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO

CONTRA-INDICAÇÕES ABSOLUTAS

- Bloqueio Neuromuscular;
 - Instabilidade Hemodinâmica (acompanhada de sistemático aumento de suporte vasopressor);
 - Fracturas Instáveis;
 - Edema Cerebral com pressão intracraniana incontrolável;
 - Hemorragia Activa;
 - ECMO (com canulação femoral);
 - Contrapulsão Intra-Aórtica (acesso femoral);
 - Tórax/Abdómen Aberto.
-

CONCLUSÕES

Early intensive care unit mobility therapy in the treatment of
Conclusions: A Mobility Team using a mobility protocol initiated earlier physical therapy that was **feasible**, **safe** did not increase costs, and was associated with decreased intensive care unit and hospital length of stay in survivors who received physical therapy during intensive care unit treatment compared with patients who received usual care. (Crit Care Med 2008; 36:2238–2243)

physical therapy initiated in the intensive care unit offers benefit.

Design and Setting: Prospective cohort study in a university medical intensive care unit that assessed whether a mobility protocol increased the proportion of intensive care unit patients receiving physical therapy vs. usual care.

Patients: Medical intensive care unit patients with acute respiratory failure requiring mechanical ventilation on admission: Protocol, n = 165; Usual Care, n = 165.

Interventions: An intensive care unit Mobility Team (critical care nurse, nursing assistant, physical therapist) initiated the protocol within 48 hrs of mechanical ventilation.

Measurements and Main Results: The primary outcome was the proportion of patients receiving physical therapy in patients surviving to hospital discharge. Baseline characteristics were similar between groups. Outcome data are reflective of survivors. More Protocol patients received at least one physical therapy session than did Usual Care (80% vs. 47%, $p \leq .001$). Protocol

compared with Usual Care. For Protocol patients, intensive care unit length of stay was 5.5 vs. 6.0 days for Usual Care ($p = .025$); hospital length of stay for Protocol patients was 11.2 vs. 14.5 days for Usual Care ($p = .006$) (intensive care unit/hospital length of stay adjusted for body mass index, Acute Physiology and Chronic Health Evaluation II, vasopressor). There were no untoward events during an intensive care unit Mobility session and no cost difference (survivors + nonsurvivors) between the two arms, including Mobility Team costs.

Conclusions: A Mobility Team using a mobility protocol initiated earlier physical therapy that was feasible, safe, did not increase costs, and was associated with decreased intensive care unit and hospital length of stay in survivors who received physical therapy during intensive care unit treatment compared with patients who received usual care. (Crit Care Med 2008; 36:2238–2243)

KEY WORDS: respiratory failure; mechanical ventilation; mobility; intensive care units; physical therapy; passive range of motion

CONCLUSÕES

BENEFÍCIOS

Diminuição dos efeitos do repouso prolongado no leito:
- Manutenção da amplitude articular e da força muscular.

Diminuição de administração de sedativos.

Redução dos dias de *delirium*.

Redução dos dias de ventilação mecânica invasiva.

Redução dos dias de internamento (UCI e Hospitalar).

MOTIVOS

Exequível e Segura (reduzida taxa de complicações associadas à mobilização precoce do doente crítico), independentemente da severidade/complexidade e dos tratamentos instituídos:

- Ventilação Mecânica Invasiva;
- Terapia de Substituição Renal;
- ECMO;
- ...

MOBILIZAÇÃO PRECOCE NO DOENTE CRÍTICO



Evidência Científica



Melhoria dos Resultados



Maximização da Funcionalidade
Promoção da Independência/Reinserção



Estudos

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